

length. An abiding impression of this catalogue is the remarkably insensitive aesthetics of many beach protection schemes – particularly when there is no sign of the beach that they were designed to preserve. The volume concludes with a discussion of littoral hazards, pollution and conflict resolution in the beach environment.

The approach is strongly morphological – beach compartments, beach planform and beach profiles all feature strongly – and models (both hardware and mathematical) merit less than a page and no follow-up references for the interested reader. The linkage of the beach morphodynamics literature with descriptions of different beach profiles could have been more tightly organized, and a basic figure of fully reflective, fully dissipative and intermediate beach states is badly needed. Bird does raise a useful discussion on the validity and utility of the concept of the ‘equilibrium beach’ but the opportunity to move on to discuss non-equilibrium ideas is missed. And when it comes to shoreline change, the

applicability (or otherwise) of the ‘Bruun Rule’ to understanding beach response to sea-level rise really doesn’t do justice to this particular debate and its spin-offs.

*Beach Management* is most successful when weaving together case studies into a coherent narrative. At its worst, the case studies are merely descriptive rather than evaluative but some of the more detailed examples, such as those of Port Phillip Bay in southeastern Australia, do give a good insight into the challenges and complexities of coastal consultancy. These useful detailed examples will make the book attractive to researchers, students and planners concerned with managing the boundary between land and sea.

T. SPENCER

*Cambridge Coastal Research Unit  
Department of Geography  
University of Cambridge*

---

ENVIRONMENTAL CHANGE: THE EVOLVING ECOSPHERE edited by Richard John Huggett, Routledge, London, 1997. No. of pages: xx+378. Price: £16.99 (pb). ISBN 0-415-14521-X.

The content of *Environmental Change* is far more original than its title. It is also a book of breath-taking range, both in terms of the temporal scale it covers and the phenomena it considers. Essentially, however, it is not about future global change, even though the publisher’s blurb suggests it may be. It is about the history of the world since its origin. It is well written, well illustrated and well referenced, and undergraduates would find it immensely informative. Unfortunately I suspect that the sheer width of the book, the fact that it does not restrict itself merely to the Quaternary Era, and its relative lack of concern with the fashionable future, may mean that it does not attract the readership it deserves.

The first chapter looks at the evidence for environmental change and how change is dated. Chapter two describes the nature of the Cosmos. The rest of the chapters then follow what Huggett describes as ‘a rigid and unconventional structure’ with each one consisting of five sections that in sequence are: the setting down of the basic material about the

structure and composition of a particular ‘sphere’; a description of the nature of change in that ‘sphere’; the causes of change, focusing on external and internal causes; the rate of change; and the directional aspects to change – cycles, steady states and trends. The ‘spheres’ that make up the chapters are the geological environment, atmosphere, hydrosphere, pedosphere, toposphere, and biosphere and ecosphere.

The structure can be frustrating. For example sea-level changes are treated in the hydrosphere chapter, but they occur as three separated chunks in the last three sections of the chapter, where they are interspersed with discussion of other types of hydrospheric change (e.g. lake-level changes and flood and drought cycles).

Plainly there is a considerable amount of subject matter that will be of direct concern to the geomorphologist, though there are few themes that are developed at any length. Nonetheless there are flashes of informative geomorphological originality, including the airing of the possibility that impact-induced superwaves could have moulded tracts of the British landscape, of which the lowly Bournemouth Chines are one example.

A. S. GOUDIE

*School of Geography  
University of Oxford*

---

ENVIRONMENTAL GEOLOGY: GEOLOGY AND THE HUMAN ENVIRONMENT by Matthew R. Bennett and Peter Doyle, John Wiley & Sons Ltd, Chichester, 1997. No. of pages: 501. Price: £18.99 (pb). ISBN 0-471-97459-5.

Research and teaching activity in environmental geology is continuing to grow rapidly. This ‘new’ discipline was

formulated 30 years ago in North America, has swept through Europe in the past decade, and is expanding now in the rest of the world. Its dual driving forces are, superficially, student attraction to the ‘environmental’ tag as a byword for relevant science and, more fundamentally, society’s urgent need to understand the geological components of environmental problems.

Bennett and Doyle’s book is therefore aimed at an